

## **AMENDMENTS TO THE SPECIFICATION**

Please replace paragraph [0051] with the following amended paragraph.

**[0051]** In FIG. 4 a wireless transceiver radio 440 is controlled by the DSP controller 410 for purposes of network communication ~~via cable linkages to other network elements~~. Antenna 445 connects to the wireless transceiver radio 440. Communication module 450 is also connected to DSP controller 410 and provides a second means of communicating: by conventional wired network linkage. Communication linkage 452 connects to the previous network device (nearer to CRU 180 in a network sense) and communication linkage 454 connects to the next network device along the cable (further from the CRU 180).

Please replace paragraph [0069] with the following amended paragraph.

**[0069]** In most cases, the propagation uncertainty resulting from the rebroadcast of synchronization signals, commands, and data has a known statistical distribution, or a distribution that can be determined in advance, which can be exploited to improve the synchronization of the RAMs (100, 230, 730, 750, and 760) in the network. To begin with, both a definite upper and a lower limit can be set on the propagation time of the signals. The uncertainty of the propagation time can be either:

- a) *Uniformly Random*: any delay is equally likely as long as it is greater than a minimum propagation time and less than a maximum propagation time. If both RAMs (100, 230, 730, 750, and 760) know the predetermined times and intervals, then as the first RAM transmits synchronization signals, the second RAM is able to use its internal clock to find a moment where 50% of the synchronization signals come before that moment and 50% of the synchronization signals come after that moment. That moment will be predetermined transmission time plus the midway interval between the minimum and maximum propagation times.

- b) *Weighted*: any delay between a minimum and a maximum value is possible with certain delays more likely than others.

Any delay must be greater than ~~then~~ a minimum propagation time and less than a maximum propagation time. The statistical distribution of the propagation times is calculated in a controlled environment meant to match the environment in which the RAMs (100, 230, 730, 750, and 760) are to be used. The statistical ~~statistically~~ distribution is programmed into all the RAMs to be used at a later date. The statistical distribution is dependent on the physical environment, the properties of the electronics in RAMs, and the firmware controlling the functioning of the RAMs. When the RAMs attempt to synchronize themselves in actual use, the first RAM transmits a synchronization signal to a second RAM which ~~who~~ will use the synchronization signal and prior knowledge of the propagation statistical distribution to synchronize its clock to the first RAM. The first RAM will send synchronization signals to the second RAM at the same frequency and interval as was done in the controlled environment in which the propagation statistical distribution was determined. Using its internal clock, the second RAM will measure the interval between when it expected to receive the synchronization signal and ~~with~~ when it actually received the synchronization signal. This interval is known as the reception interval. The second RAM will match that pattern of reception intervals with the pattern of reception intervals stored inside the second RAM. The more synchronization signals the second RAM receives from the first RAM, the more accurately ~~accurate~~ the second RAM can match the reception interval pattern to the known reception interval pattern. The goal is to receive enough reception intervals to match a specific reception interval with the previously determined reception interval pattern. Once a match to the pattern is found, the second RAM, knowing the transmission time delay from the first RAM to the second RAM, will be able to determine the drift of its internal clock 400. The second RAM can reset its internal clock to be

synchronized with the first RAM's clock by accounting for the known time delay of the propagation signal.